

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for data compression, comprising:
 - (a) recording a first waveform at a plurality of data points;
 - (b) compressing said data points by a first protocol to derive a first compressed data;
 - (c) compressing said data points by a second protocol to derive second compressed data; and
 - (d) comparing said first compressed data to said second compressed data to determine which would require less memory for storage.
2. (Original) The method of claim 1, where said first protocol measures the difference between data points.
3. (Original) The method of claim 1, wherein said first protocol measures the difference between measured differences.
4. (Original) The method of claim 3, wherein said steps of compressing include compressing said data points by a third protocol to derive third compressed data, said first protocol being a bit encoding protocol, said second protocol being a difference encoding protocol, and said third protocol being a difference of the differences protocol.

5. (New) The method of claim 1, said plurality of data points including a first data point, where said first protocol includes measuring the difference between said first data point and one of the remainder of said plurality of data points.
6. (New) The method of claim 1, said first protocol measuring the difference between data points with a magnitude of the difference being stored along with an upshift or downshift to indicate direction.
7. (New) The method of claim 1, further comprising:
 - (e) storing the compressed data determined by said comparing step.
8. (New) The method of claim 1, said comparing step being executed by a microprocessor.
9. (New) The method of claim 8, said waveform being an acoustic waveform and said microprocessor being located downhole.
10. (New) The method of claim 1, wherein said plurality of data points comprises a first set of data, and further wherein the step of comparing also includes comparing said first compressed data and said second compressed data to said first set of data in order determine which would require the least memory for storage.